

Claims

What is claimed is:

- 1 1. A method, comprising:
2 mapping, by an operating system, a range of virtual addresses to a range of
3 physical addresses, wherein a subset of the range of virtual addresses is identity-
4 mapped to a subset of the range of physical addresses.
- 1 2. The method of claim 1, wherein the subset of the range of virtual addresses
2 comprises at least a portion of a page table.
- 1 3. The method of claim 1, wherein mapping further comprises:
2 selecting a start address of the subset of the range of physical addresses; and
3 selecting a size of the subset of the range of physical addresses.
- 1 4. The method of claim 1, wherein mapping further comprises:
2 selecting a number of pages to reserve as the subset of the range of physical
3 addresses.
- 1 5. The method of claim 1, further comprising:
2 allocating the subset of the range of physical addresses for use by a direct
3 memory access module.
- 1 6. The method of claim 5, further comprising:
2 re-allocating the subset of the range of physical addresses for use by the
3 direct memory access module.

- 1 7. The method of claim 5, further comprising:
2 requesting an increase in a size of the subset of the range of physical
3 addresses.
- 1 8. An article comprising a machine-accessible medium having associated data,
2 wherein the data, when accessed, results in a machine performing:
3 mapping, by an operating system, a range of virtual addresses to a range of
4 physical addresses, wherein a subset of the range of virtual addresses is identity-
5 mapped to a subset of the range of physical addresses.
- 1 9. The article of claim 8, wherein the data, when accessed, results in the
2 machine performing:
3 storing application data in the subset of the range of virtual addresses; and
4 passing a virtual address pointer associated with the subset of the range of
5 virtual addresses to a direct memory access module.
- 1 10. The article of claim 8, wherein the data, when accessed, results in the
2 machine performing:
3 determining a need to transfer application data using a direct memory access
4 module; and
5 storing the application data in the subset of the range of physical addresses
6 by writing the application data to the subset of the range of virtual addresses.
- 1 11. The article of claim 8, wherein the data, when accessed, results in the
2 machine performing:
3 transferring application data between the subset of the range of virtual
4 addresses and a peripheral device by passing a virtual pointer associated with the
5 subset of the range of virtual addresses to a direct memory access module.

- 1 12. The article of claim 8, wherein the data, when accessed, results in the
2 machine performing:
3 transferring the application data between the subset of the range of virtual
4 addresses and a first-in first-out memory included in a peripheral device.
- 1 13. An apparatus, comprising:
2 a mapped memory having a range of physical addresses; and
3 a register associated with the mapped memory to indicate a subset of a range
4 of virtual addresses that is identity-mapped to a subset of the range of physical
5 addresses.
- 1 14. The apparatus of claim 13, further comprising:
2 a module to receive a pointer to the subset of the range of virtual addresses
3 and to transfer data between the subset of the range of physical addresses and a
4 peripheral memory using a direct memory access operation.
- 1 15. The apparatus of claim 14, wherein the peripheral memory comprises a first-
2 in first-out memory.
- 1 16. The apparatus of claim 13, further comprising:
2 a processor associated with a memory map including at least one fixed
3 address included in the range of physical addresses.
- 1 17. The apparatus of claim 13, further comprising:
2 a buffer allocated from the subset of the range of physical addresses.
- 1 18. A system, comprising:
2 a peripheral memory;
3 a mapped memory having a range of physical addresses;

4 a direct memory access module to be coupled to the peripheral memory and
5 to the mapped memory, wherein a subset of a range of virtual addresses
6 associated with the mapped memory is identity-mapped to the range of physical
7 addresses; and
8 a display to be coupled to the peripheral memory.

1 19. The system of claim 18, wherein the peripheral memory comprises a
2 graphics frame buffer.

1 20. The system of claim 18, further comprising:
2 an application module including a virtual pointer associated with the range
3 of virtual addresses, wherein application data processed by the application
4 module can be communicated between the range of virtual addresses and the
5 peripheral memory by passing the virtual pointer to a direct memory access
6 module.

1 21. The system of claim 18, wherein the direct memory access module is to
2 transfer application data from the subset of the range of physical addresses to
3 the peripheral memory in response to receiving a virtual pointer to the subset
4 of the range of virtual addresses.